

Serial No. 09/893,788  
Docket No. YOR920010316US1  
YOR.291

2

**AMENDMENTS TO THE CLAIMS:**

1. (Previously presented) A computer implemented method of navigating data blocks, comprising:
  - opening a first data block of a plurality of data blocks of interest, said plurality of data blocks being spatially indexed in N dimensions;
  - viewing a closeness relationship between said first data block opened and a second plurality of data blocks based on their content; and
  - accessing a second data block of said second plurality of data blocks which is viewed to be closest to said first data block.
2. (Original) The method of claim 1, wherein a user views said first data block and views its relationship with other data blocks based on a calculation of a distance function, and without traversing a hypertext link, and without subsequently accessing a prior search results page.
3. (Original) The method of claim 1, further comprising:
  - each time a data block is accessed, building a proximity list indicating a closeness of another plurality of data blocks to the data block accessed currently, such that the user traverses data blocks horizontally to find a most relevant data block to information sought.
4. (Original) The method of claim 1, wherein N is a number of words or subjects in a selected corpus.

Serial No. 09/893,788  
Docket No. YOR920010316US1  
YOR.291

3

5. (Original) The method of claim 1, further comprising:

inputting, by a user, an input indicating a search to be performed, the input including a collection of data blocks which are to be indexed, said data blocks selectively containing data, metadata, and links to other data blocks.

6. (Original) The method of claim 5, wherein the user further inputs a search depth defining how many links are to be followed during a search process and a collection of text strings 1 to N is input, said text strings being used as search criteria in a spatial indexing process.

7. (Original) The method of claim 6, further comprising:

creating, for each data block given as an input, an index record for storing search results which relate each said data block to each of the strings in the collection; and

creating a global index record array which contains index records for each of the data blocks given as an input.

8. (Currently amended) A computer implemented method of navigating data blocks, comprising:

opening a first data block of a plurality of data blocks of interest, said plurality of data blocks being spatially indexed in N dimensions;

viewing a closeness relationship between said first data block opened and a second plurality of data blocks based on their content;

Serial No. 09/893,788  
Docket No. YOR920010316US1  
YOR.291

4

accessing a second data block of said second plurality of data blocks which is viewed to be closest to said first data block;

inputting, by a user, an input indicating a search to be performed, the input including a collection of data blocks which are to be indexed, said data blocks selectively containing data, metadata, and links to other data blocks;

wherein the user further inputs a search depth defining how many links are to be followed during a search process and a collection of text strings 1 to N is input, said text strings being used as search criteria in a spatial indexing process,

creating, for each data block given as an input, an index record for storing search results which relate each said data block to each of the strings in the collection; and

creating a global index record array which contains index records for each of the data blocks given as an input,

~~The method of claim 7,~~

wherein said indexing of the data blocks includes:

determining whether an index record  $i$  is less than a number  $M$  of blocks in the database and if so setting a number  $j$  to 0;

determining whether  $j$  is less than the number  $N$  of keywords in a search corpus, and if so, calculating a search result  $R_j$  as a number of occurrences of word  $W_j$  in the data block  $B(i)$ ;

storing the search result  $R_j$  in the index of block  $B(i)$ ; and

incrementing  $j$  by "1" and determining whether  $j$  is less than  $N$ .

Serial No. 09/893,788  
Docket No. YOR920010316US1  
YOR.291

5

9. (Original) The method of claim 8, further comprising:  
if  $j$  is determined to be less than  $N$ , incrementing the index record  $i$  and  
determining whether  $i$  is less than the number  $M$  of blocks in the database.
10. (Original) The method of claim 9, further comprising:  
if  $i$  is not less than  $M$ , then storing a vector  $R()$  in the index of each block  $B(i)$  as a  
spatial coordinate of each document  $B_i$ .
11. (Original) The method of claim 1, further comprising:  
calculating and displaying a proximity list for a data block.
12. (Currently amended) A computer implemented method of navigating data blocks,  
comprising:  
opening a first data block of a plurality of data blocks of interest, said plurality of  
data blocks being spatially indexed in  $N$  dimensions;  
viewing a closeness relationship between said first data block opened and a second  
plurality of data blocks based on their content;  
accessing a second data block of said second plurality of data blocks which is  
viewed to be closest to said first data block; and  
calculating and displaying a proximity list for a data block,  
~~The method of claim 11,~~  
said calculating comprising:  
reading an input data block  $B(c)$ ;  
reading search results  $R_1$  to  $R_n$  stored in the index in block  $B$ ;

Serial No. 09/893,788  
Docket No. YOR920010316US1  
YOR.291

6

setting  $i$  to "1", and determining whether  $i$  is less than a number  $M$  of blocks in the database and if so, setting  $j$  to 1 and a distance to 0;

determining whether  $j$  is less than a number  $N$  of key words in a search corpus, and if so incrementing the distance to a sum of a previous distance and an absolute value of a difference between a result  $R_j$  of block  $B_c$  and the result  $R_j$  of block  $B_j$ , and incrementing  $j$ .

13. (Original) The method of claim 12, further comprising:

if  $j$  is determined to be not less than  $N$ , then incrementing  $i$  and again determining if  $i$  is less than  $M$ .

14. (Original) The method of claim 12, further comprising:

if it is determined that  $i$  is not less than  $M$ , then building a proximity list by listing the data blocks  $B(i)$  wherein  $0 < i < M$  by ascending order according to a value of distance  $(i)$ , thereby to calculate the proximity list for the data block.

15. (Original) The method of claim 1, further comprising:

positioning, by the user, a search focus and directing coordinates of a search.

16. (Original) The method of claim 1, further comprising:

providing a graphical user interface which shows a projection of the  $N$ -dimensional space into a plurality of dimensions.

Serial No. 09/893,788  
Docket No. YOR920010316US1  
YOR.291

7

17. (Original) The method of claim 16, further comprising:

displaying the projection in three dimensions obtained by first selecting all data blocks in the space which have a non-zero value for coordinates (x, y, z), where x, y, and z are search criteria, and then by making a value of all other coordinates equal to zero.

18. (Original) The method of claim 17, further comprising:

displaying search results in a scatter-plot, thereby to reveal a geometric solid with dense and sparse areas, such that the solid is oriented in the three axes, and points which are at the center are related to all three subjects and such that points with a relatively high value in one axis, and relatively low values in the remaining axes will contain data blocks which are relevant only to the term relevant to the one axis, but not to terms relevant to the remaining axes.

19. (Original) The method of claim 18, wherein most significant Web pages are displayed in a most densely populated area that is not skewed towards any particular axis, and

wherein a current position of the search is shown in the scatter-plot, such that a user navigates documents in the scatter-plot using a hand-held input mechanism.

20. (Original) The method of claim 19, wherein said hand-held input mechanism comprises at least one of a mouse, a touchpad, a light pointer, a keyboard, and a joy stick.

Serial No. 09/893,788  
Docket No. YOR920010316US1  
YOR.291

8

21. (Original) The method of claim 19, further comprising:  
as the user navigates the three dimensional scatter-plot, changing a current position and a proximity list.
22. (Original) The method of claim 21, wherein, during a spatial search, the user positions the current position in a center of the most densely populated area.
23. (Original) The method of claim 1, wherein said data blocks comprise documents, said method further comprising:  
selectively providing documents with or without any inter-document links.
- 24-31. (Canceled).
32. (Previously presented) The method of claim 1, wherein said viewing comprises:  
displaying information according to a location in an N-dimensional space.
33. (Previously presented) The method of claim 1, wherein said closeness relationship comprises:  
a relationship of a Euclidean distance between points in an N-dimensional space.
34. (Previously presented) The method of claim 2, wherein said distance function comprises:  
a distance function in Euclidean space.

Serial No. 09/893,788  
Docket No. YOR920010316US1  
YOR.291

9

35. (New) The method of claim 1, further comprising:

spatially indexing a collection of data blocks using a collection of text strings 1 to N as a search criteria,

wherein said spatially indexing includes:

determining whether an index record i is less than a number M of blocks in the database and if so setting a number j to 0;

determining whether j is less than the number N of keywords in a search corpus, and if so, calculating a search result R<sub>j</sub> as a number of occurrences of word W<sub>j</sub> in the data block B(i);

storing the search result R<sub>j</sub> in an index of block B(i); and

incrementing j by "1" and determining whether j is less than N.

36. (New) The method of claim 1, further comprising:

reading an input data block B(c);

reading search results R<sub>1</sub> to R<sub>n</sub> stored in an index in block B;

setting i to "1", and determining whether i is less than a number M of blocks in the database and if so, setting j to 1 and a distance to 0;

determining whether j is less than a number N of key words in a search corpus, and if so incrementing the distance to a sum of a previous distance and an absolute value of a difference between a result R<sub>j</sub> of block B<sub>c</sub> and the result R<sub>j</sub> of block B<sub>j</sub>, and incrementing j.

37. (New) The method of claim 1, wherein N is a number of words or subjects in a selected corpus, and

Serial No. 09/893,788

10

Docket No. YOR920010316US1

YOR.291

wherein said viewing includes displaying information according to a location in an N-dimensional space, and

wherein said closeness relationship includes a relationship of a Euclidean distance between points in the N-dimensional space.